The " $\underline{A}_2$ " State of  $\underline{a}_2$ ^ $\underline{m-1}$ 

To illustrate pigmented patterns given by the  $\underline{A}_2$  state of  $\underline{a}_2^{m-1}$  following changes in action of  $\underline{\underline{Spm}}$ .

## I. 8720-8 x 8734D-3 Note:

- 1. Ratio of fully pigmented kernels to spotted and colorless kernels = ½ colorless : ¼ fully pigmented : ¼ spotted.
- 2. The fully pigmented kernels received a2 but no Spm from male parent. These kernels are "wx".
- 3. The colorless kernels received  $\underline{a}_2$  from the male parent. Half of these show glassy spots which represent mutations at  $\underline{w}\underline{x}^{m-8}$  to an allele of  $\underline{w}\underline{x}$  in response to the active  $\underline{Sp}\underline{m}$  introduced from the male parent. Those with no glassy spots did not receive this  $\underline{Sp}\underline{m}$ .
- 4. The spotted kernels received a2 m-1 and andactive Spm from the male parent. All of these kernels also have wx sectors.

  The pigmented spots represent inactivations of Spm that occurred during development or losses of Spm due to transposition.

  Note that many of the large pigmented areas have a twin area with only tiny specks of pigment in them. These twin areas probably reflect transpositions of Spm that occurred during development.

  Mitotic segregation introduced two Spm into one nucleus and resulted in loss of Spm from the sister nucleus. (For patterns of pigmentation given by doses of Spm see sections 4 5 am q ).

  II. 8720-13. a2 Bt/a2 bt; wx m-8/wx m-8 x 8734D-3.
- 1. Note linkage of  $\underline{a_2}^{m-1}$  with  $\underline{Bt}$ , and absence of linkage of either locus with  $\underline{Spm}$ .
- 2. Details of reaction of  $\underline{a_2}^{m-1}$  and  $\underline{wx}^{m-8}$  to  $\underline{Spm}$  and changes in its action (or location) are the same as described in I.